ABSTRACT

CORRELATION MALONDIALDEHYDE LEVELS AND HEARING THRESHOLD LEVEL AT FREQUENCY 4000 HZ AFTER GUNSHOT EXPOSURE ON EAST JAVA STATE POLICE SCHOOL STUDENS

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Objektive : The aim of this study is to prove the correlation between MDA levels and hearing threshold level at frequency 4000 Hz after gunshot exposure on East Java Police School Studens.

Methods : Design of the study is retrospective cross sectional. Research was conducted at East Java State Police School. Research was held in August to November 2018. It obtained 50 samples who participate freely for audiometry examination and MDA serum levels measurement. Hearing thresholds was measured using audiometer Interacoustics Type AD226. The MDA serum levels were measured by ELISA method using human MDA ELISA kit reagen of Elabscience. Data were arranged as a scale ratio and analyze using Pearson correlation.

Result : The youngest participant of the study is 18 years old and the oldest one is 21 years old. They does not complain of tinnitus nor vertigo. Hearing loss was complained by 1 studens (2%). Acustic trauma of this research was found in 28 studens (56%). Statistic test using pearson correlation found coefficient correlation (r) = 0,74 and p = 0,00 (p < 0,05). It indicated that MDA serum levels and hearing threshold at 4000 Hz frequency have a strong positive correlation and significant.

Conclusion : The research conclude that there is a strong correlation between MDA levels and hearing threshhold at 4000 Hz frequency after gunshot exposure on East Java State Police School Studens.

Keywords : acoustic trauma, malodialdehyde, hearing threshold level at frequency 4000 Hz